

ABSTRACT

A combined wide-image and loop-cutter pattern is provided for both cutting and forming a wide-image section to a hard mask on a substrate formed by sidewall imaging techniques in a reduced number of photolithographic steps. A single mask is formed which provides a wide mask section while additionally providing a mask to protect the critical edges of an underlying hard mask during hard mask etching. After the hard mask is cut into sections, the protective portions of the follow-on mask are removed to expose the critical edges of the underlying hard mask while maintaining shapes necessary for defining wide-image sections. Thus, the hard mask cutting, hard mask critical edge protecting, and large area mask may be formed in a reduced number of steps.